



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n°3 – Physics

EASME/EMFF/2020/3.1.11/Lot4/SI2.838612

Start date of the project: 23/08/2021 - (24 months)

Centralisation Phase

Quarterly Progress Report (Q3.2022)

Reporting Period: 01/07/2022 – 30/09/2022



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1. Highlights in this quarter

Task 1. Maintain and improve a common method of access to data held in repositories

During the reporting period, the focus was to finalize and fine tune the prod-env (geonetwork, erddap and geoserver). In collaboration with CP, products from the Physics thematic portal were integrated and tested under the CP system.

Task 2. Construct products from one or more data sources that provide users with information about the distribution and quality of parameters in time and space

During the period the effort was focused on making the available products ready and compliant to the needs of the central portal and make it ready to its official lunch.

Task 3. Develop procedures for machine-to-machine connections to data and data products

During the period the activities focused on cleaning and fine tuning some of the connected links from the previous periods. A number of new platforms started delivering on already set connections (69 new platforms from the JRC-TAD, 2 eMOLT from Berring Data Collective, 38 meteorological buoys from NDBC).

To facilitate new users to install the ERDDAP docker, the GitHub page was updated:

<https://github.com/EMODnet-Physics>

Moreover, we continued the collaboration and ingestion from the ARICE project, more specifically data from the Arctic Net and Amundsen were linked and are now available into EMODnet Physics¹

Task 4. Contribute data, data products and content to a central portal that allows users to find, view and download data and data products

In collaboration with the CP a complete review of metadata, links, was completed. Moreover, the team worked on the GetFeatureInfo and in particular the INFO_FORMAT=text/html property. By means of this feature the EMODnet Physics GeoServer is exposing a html, hence it is customizable and it was possible to push some of the current EMODnet Physics portal features into the CP (e.g. the parameters charts and data download from the plot).

¹ <https://erddap.emodnet-physics.eu/erddap/search/index.html?page=1&itemsPerPage=1000&searchFor=ARICE>

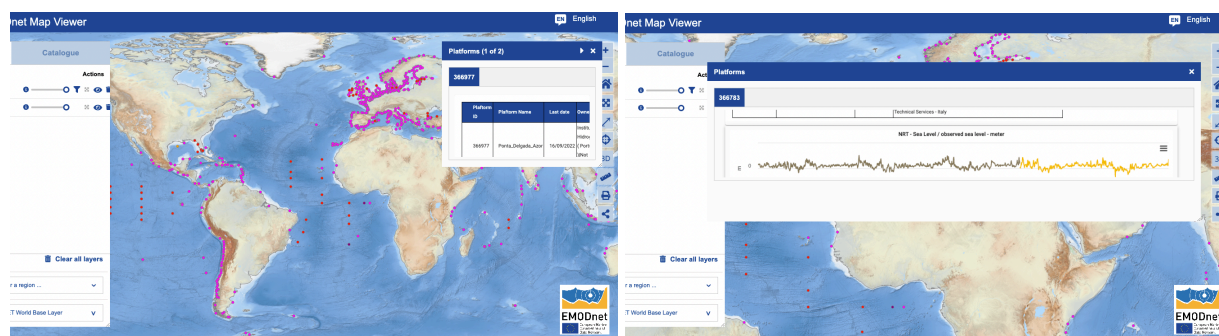


Figure 1. example of the integration of EMODnet Physics features into the Central Portal.

Task 5. Contributing content to dedicated spaces in Central Portal

During the period there was an intense activity on reviewing both static content, data and data products.

Task 6. Ensure the involvement of regional sea conventions

No major updates to report on this task.

Task 7. Contribute to the implementation of EU legislation and broader initiatives for open data

The team proactively participated to a series of events and workshops (e.g. EuroSEA, European Marine Days, Copernicus Marine Service) on common standards and opendata. We would like to highlight the following major taken actions:

We gave a Guest Lecture (11/07/2022) on Quality Control and Data Management – EMODnet: methods and tools in the global glider data exchange at the 2022 Marine Robotics Summer School. The Summer School was an initiative jointly organized by the Massachusetts Institute of Technology - Portugal Program (MPP), LSTS – Underwater Systems and Technology Laboratory (FEUP), and the University of Azores and took place at Faial island, in the Azores, between July 11 and 22.

The team attended SOOS-SCAR workshop on data FAIRness providing examples on how Physics and Ingestion are supporting data sharing across communities and how to implement interoperability.

During the period we continued the dialogue with EUROPEAN MARINA NETWORK OF ENVIRONMENTAL DATA STATIONS (EMANEDS) up to the drafting of a white paper/guidance for marinas to become focal points of community ecosystems dedicated to harmonised marine environmental monitoring and data generation (full doc in attach). The main outcome of the dialogue is that the Marinas community is ready and willing to contribute, but there is a need for a small supported pilot action to proof of concept and show the implementation of the data flow.

Task 8. Monitor quality/performance and deal with user feedback

The subtask “deal with user feedback” goes together with task 7. Concerning the process to monitor performances, EMODnet Physics is implementing matomo for collecting views on the landing and map page. It uses logs to extract the traffic/requests/manual downloads/interaction with services. The system was updated and, if the users is trying to download coastal data older than 60 days, the mapviewer is proposing a form to collect some user information (type of organization and filed of work). The filling of the form is on voluntary basis.

Other sources for feedback are the events (conference, workshops, etc). Among the others, we collected very positive and interesting feedback during workshop on off-shore energy: users are interested in the available features and they are asking for more educational/documentational material to be able and consume more data from EMODnet.

da NL - Gerben J. de Boer Van Oord a tutti:
10:33 AM
The google sheet demo that Antonio just gave is very informative for the users in my contracting industry (which is very Excel minded). A very simple way to get data via a webservice. I suggest to turn that into a series of instruction movies at the EMODnet portal.
da Maren Lyngsgaard WSP a tutti: 10:33 AM
Brilliant - thank you very much

Task 9. Maintain the existing thematic web portal for a maximum of six months from the start of the projects

Web portal maintainance will be provided untill the new central system is published.

Table 1. Milestones and Deliverables - EASME/EMFF/2020/3.1.11/Lot4/SI2.83861

Status of the Milestones and Deliverables listed in the workplan			
Milestone/Deliverable	Date due	Status (Delivered/Delayed)	If Delayed: reason for delay and expected delivery date
D1.1 Kick off Meeting	30/11/2021	8 November 2021	
D1.2 Annual assembly	30/11/2022		
D1.3 EMODnet SC	30/11/2021	8-10 September 2021	
D1.4 EMODnet TWG	30/11/2021	8-10 September 2021	
D1.5 EMODnet SC	31/05/2022	27-28 April 2022	
D1.6 EMODnet TWG	31/05/2022	26 April 2022	
D1.7 EMODnet SC	31/08/2022	18 July 2022	
D1.8 EMODnet TWG	31/08/2022	18 July 2022	
D1.9 EMODnet SC	30/11/2022		Planned in Nov 2022
D1.10 EMODnet TWG	30/11/2022	21-22 September	
D1.11 EMODnet plenary event	31/12/2021	8-9 November 2021	The EMODnet Physics KOM was organized in two sessions, the first one was closed to core partner (D1.1) the second was a plenary with invited speech about previous and recent developments of the EMODnet Physics networks and collaborators
D1.12 EMODnet plenary event	30/06/2022	12-13 April 2022	INS data ingestion WS. The event is involving EMODnet (Physics, Chemistry and Ingestion), CMEMS INSTAC and EurGOOS to discuss about joint actions for facilitating nrt operational data ingestion
D1.13 EMODnet plenary event	31/12/2022		
D1.14 EMODnet plenary event	30/06/2023		
D1.15 Quarterly report Q3.2021	15/10/2021	Delivered	

		15/10/2021	
D1.16 Quarterly report Q4.2021	15/01/2022	Delivered 15/01/2022	
D1.17 Quarterly report Q1.2022	15/04/2022	Delivered 15/04/2022	
D1.18 Quarterly report Q2.2022	15/07/2022	Delivered 15/07/2022	
D1.19 Quarterly report Q3.2022	15/10/2022	Delivered 15/09/2022	This Report
D1.20 Quarterly report Q4.2022	15/01/2023		
D1.21 Quarterly report Q1.2023	15/04/2023		
D1.22 Quarterly report Q2.2023	15/07/2023		
D1.23 Annual progress report	23/08/2022		
D1.24 Final progress report	23/08/2023		
D1.25 Handover note	23/08/2023		
D1.26 EMODnet Physics note for Annual Report 2021	31/01/2022	Delivered (January 2022)	
D1.27 EMODnet Physics note for Annual Report 2022	31/01/2023		
D1.28 EMODnet Ingestion general assembly 2021	30/11/2021	21-22 September 2021	
D1.29 EMODnet Ingestion general assembly 2022	30/11/2022	16-17 April 2022	
D1.30 Guideline on data ingestion procedures for new real time and near real time streams v.2022	31/08/2022	Delivered (August 2022)	
D1.31 Guideline on data ingestion procedures for new real time and near real time streams v.2023	23/08/2023		
D1.32 Use cases 2021	31/12/2021	CMCC delivered (Dec 2021) OGS delivered (Feb 2022)	

D1.33 Use cases 2022	31/12/2022	CSCS delivered (Feb 2022) OceanGlider delivered (Feb2022)	
D1.34 Use cases 2023	23/08/2023		
D1.35 Contribution to central space with background information and EMODnet Physics content	28/02/2022	In progress – tracked with JIRA	
D1.36 TGs - RSCs event attendance	31/12/2021	TG NOISE WS “towards EU thresholds for underwater noise”, 13-14 Sept 2021	
D1.37 TGs - RSCs events attendance	30/06/2022	TG NOISE WS: Towards EU threshold values for underwater noise (17/02/2022) 20th TG-NOISE – 22/03/2022	TG NOISE doc library ²
D1.38 TGs - RSCs events attendance	31/12/2022	21th TG-NOISE – 24/05/2022 A new TG NOISE is planned 22/10/2022	This event was attended by partners ICES and CTN.
D1.39 TGs - RSCs events attendance	30/06/2023		
D2.1. Data Inventory with gap analysis v.2021	31/12/2021	V.2021 attached to Q1.2022	EMODnet Physics_Inventory_v.2021.03
D2.2 Data Inventory with gap analysis v.2022	31/08/2022	V.2022 attached to Interim Report	
D2.3 Data Inventory with gap analysis v.2023	23/08/2023		
D2.4 EMODnet Physics Event/Workshop	31/12/2021	Delivered – (15/1/2022) - updates are described in the quarterly report Q4.2021 – Section 4	

² <https://circabc.europa.eu/ui/group/326ae5ac-0419-4167-83ca-e3c210534a69/library/89b98517-6283-4d3a-abd0-3a716661b370?p=1>

D2.5 EMODnet Physics Event/Workshop	30/06/2022	Delivered – (15/4/2022) - updates are described in the quarterly report Q1.2022 – Section 4	This Report
D2.6 EMODnet Physics Event/Workshop	31/12/2022	EMODnet team organized the special session on Data System Networking and Interoperability Technology and Methodology at the IEEE MetroSea 2022 (3-5 October 2022)	
D2.7 EMODnet Physics Event/Workshop	30/04/2023		
D2.8 Report on the maintainance and update of the EMODnet Physics smart connectors v.2022	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D2.9 Report on th maintainance and update of the EMODnet Physics smart connectors v.2023	23/08/2023		
D2.10 EMODnet Physics Handbook on data management	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D2.11 Support to develop common strategy and guideline for adoption cloud technologies	23/08/2023		
D2.12 EMODnet Physics Metadata handbook and examples	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D2.13 Report on dissemination system interfaces update v.2022	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D2.14 Report on dissemination system interfaces update v.2023	23/08/2023		
D2.15 Updated list of EMODnet Physics products v.2021	31/12/2021	Delivered 15/1/2022	
D2.16 Updated list of EMODnet Physics products v.2022	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D2.17 Updated list of EMODnet Physics products v.2023	23/08/2023		
D2.18 SSS v.2020	28/02/2022	Released ³	

³ <https://prod-erddap.emodnet-physics.eu/erddap/griddap/CISC-BEC-SSS.html>

D2.19 SSS v.2021	28/02/2023		
D2.20 River Proxy V1.0	31/12/2021	Released ⁴	
D2.21 River Proxy V2.0	31/08/2022	31/12/2022	Physics and Chemistry are working on a new river product (limited number of rivers) that includes both outflow, temperature and salinity. Release postponed to end of the year
D2.22 River Proxy V3.0	23/08/2023		
D2.23 INS RVFL DB v.1.0	31/08/2022	Released ⁵	
D2.24 TSM v.2021	28/02/2023		
D2.25 SLEV INS DB	31/12/2021	Released ⁶	
D2.26 SLEV REL TRENDS	31/08/2022	Released ⁷	
D2.27 SLEV ABS TRENDS	31/08/2022	Released ⁸	
D2.28 SLEV REL ANOM	31/08/2022	31/12/2022	SONEL, which is the provider for this product is developing a new workflow to facilitate harvesting from Physics. Only lately it was possible to start this action and should be possible to close and include the new product by end of the year
D2.29 SLEV ATL ABS TREND	31/08/2022	Released ⁹	
D2.30 RFVL v.1	28/02/2023		

⁴ https://products.emodnet-physics.eu/EP_MAP_RVFL_001/
https://prod-erddap.emodnet-physics.eu/erddap/tabledap/ERD_EP_RVFL_NRT.html

⁵ https://prod-erddap.emodnet-physics.eu/erddap/tabledap/ERD_EP_RVFL_NRT.html

⁶ https://prod-erddap.emodnet-physics.eu/erddap/tabledap/ERD_EP_SLEV_NRT_60m.html

⁷ http://prod-geoserver.emodnet-physics.eu/geoserver/EMODnet/wms?service=WMS&version=1.1.0&request=GetMap&layers=EMODnet%3AEP_PSMSL_SLEV_REL&bbox=-157.86700315733998%2C-36.843100736862%2C174.76900349538002%2C65.673401313468&width=768&height=330&srs=EPSG%3A4326&styles=&format=application/openlayers

⁸ https://prod-erddap.emodnet-physics.eu/erddap/griddap/EMODNET_SEA_LEVEL_TREND.graph

⁹ https://prod-erddap.emodnet-physics.eu/erddap/griddap/EMODNET_SEA_LEVEL_MONTHLY_MEAN_DESEASONALIZED.graph

D2.31 UWN ROI v.1.0	31/08/2022	Postponed	It will be released by end September – early October
D2.32 WAVE INS DB+ NOWCAST v.2.0	28/02/2022	Delayed	The product is not covering whole Europe (hence it is not ready yet) – At the moment we are receiving data for Med Sea (UniGE – DICCA), Iberian Atlantic (CoLAB Atlantic) and Irish Atlantic (Marine Institute). The product is still on development.
D2.33 WIND INS DB+ NOWCAST v.2.0	28/02/2022	Delayed	Will be published this quarter. V2.0 will have grid resolution of 10Km (UniGE – DICCA)
D2.34 ICE SIC v.2.0	31/08/2022	Released ¹⁰	
D2.35 TGs - RSCs event attendance	31/12/2021	19 th TG NOISE: 26 October 2021	
D2.36 TGs - RSCs events attendance	30/06/2022	20 th TG NOISE: 22 March 2022	
D2.37 TGs - RSCs events attendance	31/12/2022	21 st TG NOISE: 24 May 2022	A TG NOISE is planned 22 nd October 2022
D2.38 TGs - RSCs events attendance	30/06/2023		
D3.1 Report on the SOS.SWE connected stations v.2021	30/11/2021	Delivered 15/01/2022	Annex to Q4.2021
D3.2 Report on the SOS.SWE connected stations v.2022	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022

¹⁰Arctic Seas:

http://prod-geoserver.emodnet-physics.eu/geoserver/EMODnet/wms?service=WMS&version=1.1.0&request=GetMap&layers=EMODnet%3Aice_edge_nh_annual&box=-4632266.5%2C-2364732.5%2C4185461.75%2C3981740.25&width=768&height=552&srs=EPSG%3A3995&styles=&format=application/openlayers

Antarctic Seas:

http://prod-geoserver.emodnet-physics.eu/geoserver/EMODnet/wms?service=WMS&version=1.1.0&request=GetMap&layers=EMODnet%3Aice_edge_sh_annual&box=-2624331.25%2C-2947571.75%2C3415682.5%2C3649295.25&width=703&height=768&srs=EPSG%3A3031&styles=&format=application/openlayers

D3.3 Report on the SOS.SWE connected stations v.2023	23/08/2023		
D3.4 Handbook on procedure to set up SOS.SWE interoperability	23/08/2023		
D3.5 Report on new API v.2021	30/11/2021	Delivered 15/01/2022	Annex to Q4.2021
D3.6 new APIs v.2022	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D3.7 new APIs v.2023	23/08/2023		
D3.8 handbook to use EMODnet Physics APIs v.2021	30/11/2021	Delivered 15/1/2022	Annex to Q4.2021
D3.9 handbook to use EMODnet Physics APIs v.2022	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D3.10 handbook to use EMODnet Physics APIs v.2023	23/08/2023		
D3.11 Phasing out of EMODnet Physics Landing page	28/02/2022	In progress – Planned in Autumn 2022	See also Section 1
D3.12 Phasing out of EMODnet Physics mapviewer	30/11/2021	In progress – Planned in Autumn 2022	See also Section 1
D3.13 EMODnet Physics catalogue v.2021	30/11/2021	Delivered 15/1/2022	Annex to Q4.2021
D3.14 Maintenance and update of EMODnet Physics catalogue v.2022	31/08/2022	Delivered 23/08/2022	Annex to Interim Report I.2022
D3.15 Maintenance and update of EMODnet Physics catalogue v.2023	23/08/2023		
D3.16 Monitoring tools	28/02/2022	Given the centralization process the monitoring tools are going to be a combination of tools, some designed to let Physics and CP to interact and fix issues (e.g. JIRA), some to report on indicators (matomo) some to monitor M2M (the central team is updating the tools to monitor the new EMODnet Physics Environment). Whenever needed new tools will be discussed and deployed.	

2. Identified issues: status and actions taken

The following tables report pending actions from the previous report and newly-identified priority issues. Now all the tickets are assigned to the EMODnet Physics Helpdesk that is a distribution system to forward and manage the tickets as soon as possible.

Table 2. Priority issues identified by CINEA/ DG MARE/ Secretariat

A. Priority issue(s) identified and communicated by CINEA/ DG MARE/ SECRETARIAT				
Priority issue	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
Physics - Web Services MetadataUrl and DataUrl fields	Resolved	Service check and update – continuous dialogue with secretariat/central portal tech team. Services were updated in collaboration with CP.		20/09/2022
INSPIRE quality Service requirements	Resolved	The ticket is used to check and report on INSPIRE quality. the ticket was updated with the stats for Q1 of 2022. Services were updated in collaboration with CP.		20/09/2022
The WMS service exceeds the 10-seconds response time required by INSPIRE	Closed	The CP is monitoring the prod env. This ticket is now obsolete and closed.		
LegendGraphics for HFR WMS	Pending	Mapproxy does not support the legend graphics as requested. A custom development is needed. It is not planned yet. According the new architecture and Physics-CP interoperability, this ticket is obsolete.	asap	
Review the new CP mapviewer	Closed	CP have to take over and follow up on provided comment		6/4/2022
Create "NEW" Physics page on CP (dev)	Closed	Physics team is reviewing the page	asap	20/05/2022
Control feature for time constraint on the platform layers	Closed	CP and Physics team are working on this feature, importantly this should be checked on the new data that Physics is going to publish on the prod-system	asap	17/06/2022
Physics - EMODnet Catalogue Tags	Closed			20/09/2022

Layer EP_HFR_CFM_EUROPE not working in Physics WMS	In Review		asap	
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Table 3. Priority issues identified by Physics group

B. Issues / challenges identified by the thematic assembly group itself					
	Priority issue / challenge	Status (Pending/R esolved)	Action(s) taken / remaining actions planned	Date due	Date resolved

3. User feedback

Table 4. User feedback

Overview of user feedback and/or requests received in this quarter							
Date	Organisation	Type of user feedback (e.g. technical, case study, etc.) and short description of the feedback received	Means of contact	Response time	Status of user query: resolved/pending	Measures taken to resolve the query	Status: if not (yet) resolved/pending, explain reason why and expected timeline
18/7/2022	Uni Oldenburg	Platform information	HD	1 days	resolved	Feedback by email	
2/8/2022	OGS	Web portal and related services	HD	0 days	resolved	Feedback by email	
2/8/2022	Leibniz Institute for Baltic Sea Research	Platform page issues	HD	0 days	resolved	Feedback by email	
12/8/2022	ABPmer	Help for data download	HD	0 days	resolved	Feedback by email	
17/08/2022	ULiège	Data download	HD	2 days	Resolved	Feedback by email	

4. Meetings/events held/attended & planned

Table 5. Meetings/events held/attended

A. Meetings/events Organized and attended					
Date	Location	Type event (internal or external meeting, training/workshop)	Indicate if a ppt was given (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
SUM				O	Total # of meetings organised = 1
SUM				A	Total # of meetings attended = 15
01/07/2022	web	internal	no	A	follow up on Centralization with CP team
01/07/2022	web	internal	no	A	follow up on Centralization with CP team
11/07/2022	web	Summer school	yes	A	EMODnet program, goals, projects and actions were introduced before digging into in situ data management and sharing (with EMODnet provided tools such ERDDAP docker)
05/07/2022	web	workshop	yes - EMODnet Physics status and activities for glider network	A	European Glider Data Management Workshop - https://www.groom-ri.eu/european-glider-data-management-workshop-agenda-2/ - https://docs.google.com/document/d/1hQSNbnH6sm5Eo1KjrkK1og1vQDOjRtwGa0xryANe54/edit#

04/08/2022	web	Conference	Yes – Role of EMODnet Physics as open and free data hub	A	<i>Open Science Conference</i> - SCAR OSC data session: Sharing science data FAIRly to support interdisciplinary research collaborations. About 70 attendees.
18/08/2022	web	internal	no	A	Coordination with the CP team
08-09/09/2022	web	internal	Yes – Updates on river activities	A	EMODnet Chemistry Steering Committee
14-15/09/2022	Rotterdam, Netherlands	workshop	Yes- Update on EMODnet projects	A	The NOOS annual meeting 2022
16/09/2022	web	workshop	Yes – EMODnet Physics and ERDDAP	A	NOAA – ERDDAP workshop. We were invited to present on EMODnet Physics use case, use and feedback.
20-21/09/2022	web	workshop	Yes – Introduction to EMODnet	A	EMODnet-for-business two-day workshop on Offshore energy sector. The workshop was attended by more than 65 offshore renewable energy experts with representatives from diverse sectors including industry, research, policy and marine data services ¹¹ .

¹¹ <https://emodnet.ec.europa.eu/en/emodnet-business-two-day-workshop-offshore-energy-sector>

			Physics features under the CP		
21-22/09/2022	Brussels, Belgium	Internal	Yes – updates on Physics	A	EMODnet Technical Working Group. Periodic meeting to check status on centralization, integration, data flow etc.
23-25/09/2022	Savona, Italy		Yes – examples of how to use and consume EMODnet Physics data for educational scope	A	WhyBio ¹² is an annual event to build change from the bottom, in a sustainable and conscious way. It is a dissemination event to engage civil society towards a more sustainable attitude. It is attended by around of 15.000 visitors. ETT presented a VR experience to inform on climate change by using EMODnet Physics data and products
25/09/2022	Genova, Italy	Workshop	Yes – overview of EMODnet program, EMODnet Physics, Chemistry	A	Salone Nautico 2022 – International Boat Show – The sustainability comes from the sea: living experiences according to the One Health Approach Workshop. The theatre of the sea, at the hearth of the event, hosted the workshop to discuss about sustainability and oceans. The event was attended by more than 150 people on site. The event had a big hype on local newspapers and social channels ¹³

¹² <https://www.whybio.it/>

¹³ E.g. <https://www.visitgenoa.it/it/evento/ocean-race-al-salone-nautico-genova-grand-finale>

			and Ingestion to enable new services and sustainable developments		
28/09/2022	Brest, France	Meeting	No	A	Copernicus Marine Service INS TAC stakeholders meeting. EMODnet Physics is stakeholder for the Copernicus Marine Service INSTAC and the way round. The two projects work together to unlock more in situ data worldwide.
29/09/2022	Brest, France	Meeting	No	O	MIC working group meeting. Periodic meeting of the Marine In situ Collaboration team to review achievements and plan new actions to unlock and include more in situ data on EOVs for the benefit of EMODnet, Copernicus Marine Service, EuroGOOS and related initiatives.
29/09/2022	web	Workshop	Yes – updates on EMODnet and available features from the CP.	A	EuroGOOS FerryBox Annual Workshop ¹⁴ . Coordination with the FB TT is important for both Physics, Chemistry and Ingestion themes. The importance to work on a clear data licence (CC-BY) was largely discussed.

¹⁴ <https://eurogoos.eu/events/8th-ferrybox-workshop-eurogoos-task-team-meeting/>

Table 6. Meetings/events planned

B. Meetings/events planned in the future				
Date	Location	Type event (meeting, training (workshop), etc.)	Meeting to be attended (A) / organised (O)	Short description and main expected outcomes
03-05/10/2022	Milazzo, Italy	workshop	O	https://www.metrosea.org/special-sessions
10-11/10/2022	Taranto, Italy	workshop	A	GreenBlueDays
14/10/2022	Web	meeting	A	EuroGOOS DATAMEQ
22/10/2022	Web	workshop	A	TG NOISE
19-20/10/2022	Web	workshop	A	Offshore Energy Mediterranean Sea
20-21/11/2022	Florence, Italy	workshop	O	HFR TT – MONGOOS WS and GA

5. Communication assets

Table 7. Communication products

A. Communication products				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
30/9/2022	https://www.linkedin.com/posts/outbe_fi%C3%B9-adventure-activity-6981182945566834688-uNaY		11 reactions	
23/09/2022	VR experience on climate change	About 2 minute 360°-3D video that informs on climate change and uses some EMODnet physics data and products		WhyBio. The experience received very good feedback on its potential as an educational/dissemination tool in (kid) schools

Table 8. Planned communication

B. Planned communication products			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
	Video	Video on how Fisherman can use sensors and see data on EMODnet Physics. Teaser @ https://www.youtube.com/watch?v=yTSOWPWBO7s	Engage Fishermen community

Table 9. Publications

List of known publications using EMODnet data or data products				
Date	Type and name of journal, conference, ...	Publication title including DOI (if known)	Author(s)	Organisation(s)

During the period, GOOS released a new guide titled “Implementing Operational Ocean Monitoring and Forecasting Systems” (Alvarez Fanjul et al., doi in progress). the document is a new reference for operational oceanography, covering key areas of ocean monitoring and forecasting systems and focusing both on their current state of the art as well as their future developments. Interestingly EMODnet (and EMODnet Physics in particular) is largely cited and identified as one of the major data source.

A simple search in google scholar shows more than hundreds documents between papers and projects deliverables using/citing EMODnet Physics.

https://scholar.google.com/scholar?hl=it&as_sdt=0%2C5&q=EMODnet+Physics&btnG=

For a compressive overview of publications referring to/making use of EMODnet data and/or data products, please consult Google Scholar.

6. Monitoring indicators

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
<p>1. Current status and coverage of total available thematic data</p> <p>A) Volume and coverage of available data</p>	Matomo and server logs	<p>EMODnet Physics input data is sparse and for this indicator we consider the "platform" as the "unit" of monitoring assessment. A platform is a logical entity that hosts data, where data maybe a single dataset (e.g. a profile in case of CTD), a timeseries (e.g. sea level station), a series of profiles (e.g. ARGO). For indicator 1.A we report on the % variation of the number of platforms for the given basin. To note that some platforms are moving from one basin to another, considering that we are reporting figures based on the latest position, the % are deeply influenced by this. For this indicator we are using bounding box shapes. Most of them are already compliant to new indications - EEA shapefiles - (to note that Atlantic is covering EEA Atlantic and the South Atlantic is now included in Other Seas) - Caspian and Caribbean Seas have been not used yet and platforms in these regions are counted under Other Seas. For indicator 1.B the unit of download is measured in platforms (in line with indicator 1.A) while the number of downloads are measured in "requests". A request may be for a single dataset (e.g. 1 CTD) as well as a full time series (e.g. daily data for past XX years). For ice data, EMODnet Physics is integrating a satellite derived product covering the whole Arctic and Antarctic areas. This product can be only downloaded via WMS.</p>
What is your opinion on the data coverage within EMODnet for your thematic?		Coverage is very good but there are still gaps, especially in time. Also important is to plan periodic reviews (some platforms may be out of work, new platforms may be

		deployed) and periodic data packages and products updates (to include e.g. data published under a project, from a new provider, etc.).
B) Usage of data in this quarter	Matomo and server logs	Indicator 1.B is reporting the amount of downloaded data from mapviewer (note that the amount in GB is an estimation based on the number of requests multiplied the average file size). As reported in 2B the overall amount of downloaded data from ERDDAP is about 380 GB. Downloads from the mapviewer are now consuming only ERDDAP seervice (this change was indeed due to have a smooth transition to the new central system). Concerning the use of the interfaces: ERDDAP is the most used. The use of WMS/WFS layers (GeoServer) is tracked and (only) reported under 2B. Figures are in line with the planned action for the transition to CP.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Matomo and server logs	EMODnet Physics data products may be both datacollections (e.g. PSMSL RLR) and products (e.g. gridded climatology) and the full list is reported in the Products20220930 sheet. We also added the Prod-Prod (products on the production env) this is the selected list products that are discoverable from the Central Portal mapviewer. Apart from the European Under Water Noise Register and the TSM that only covering Europe (100% of the available information) the other products offer global coverage. This makes the "Volume unit" not homogeneous therefore here we report on a limited number of products.
B) Usage of data products in this quarter	Matomo and server logs	The mapviewer and the products pages accessible under the "Products" section are monitored in terms of visits (by matomo). ERDDAP is monitored both in terms of visit to the erddap landing page (matomo) and in terms of transactions (downloads - by logs). THREDDS and GeoSERVER are both monitored in terms of logs. We record a quite good use of the services, ERDDAP and THREDDS are the most used interfaces
3. Internal and external organisations supplying/approached to supply data and data products within this quarter		During the period we completed some running ingestion activities. These are not new providers but they unlocked new data.

4. Online 'Web' interfaces to access or view data		Web Services are organized per item-interface to facilitate the tracking of their use. ERDDAP, THREDDS, web APIs, Widgets, GeoServer are providing data and products without any authentication or restriction. Mapviewer presents an authentication/user interest collection form that is not compulsory but it is presented in order to collect indicator 5 stats. All linked datasets are unrestricted.
5. Statistics on information volunteered through download forms		During the period we collected data from only 1 new users. This is due to the fact that the webform asking for user interest has been disabled temporarily to let the new data download workflow to be operative from the platform pages (i.e. now the pages generates the erddap script to provide the users the dataset). this update was indeed necessary to have one single workflow to deliver data (the same data) to users from both current system (map.emodnet-physocs.eu) and the Central portal. We are planning now to revamp a webform to be presented before the final download, this could be a temporary solution until the central portal starts monitoring this indicator.
6. Published use cases		Use cases are providing examples of how EMODnet Physics data can be used for both private and public downstream applications. The most viewed are the two from industry (DHI and fishing vessels) and the two on the collaboration between EMODnet and CMEMS. Use case on sea level products also is collecting wide interest. Would be good if the CP could add the publication date on all the cases, to have the possibility to track the possible hype of the cases. Looking at the use-cases parameters-wise we can see that users are very interested in Wave, Wind, River and Sea Level products. Hype is also on the technical collaboration between Copernicus Marine Service INSTAC and Physics and on the tools that Physics offers to facilitate interoperability (ERDDAP docker).
8.1. Technical monitoring		System is stable and available (uptime 100%). Eventually, with the support of CP team we fixed the response time issues we tracked during past periods.

9. Visibility & Analytics for web pages		EMODnet Physics mapviewer is by far the most used interface with an steady trend. Catalogue is also quite well consumed. Charts are missing some data because, some endpoints were changed and the system was not able to distinct by (these) pages. Status quo.
10. Visibility & Analytics for web sections		It looks like that users directly go to the mapviewer bypassing the landing page at all. Combining indicator 9 and 10 stats we see that the map viewer is the most consumed page (9), while the webportal section (portal page link to the mapviewer - 10) is very little. This confirms that mapviewer is the most used and appreciated interface. Status quo
11. Average visit duration for web pages		Same comments as for sect.9 and 10. Staus quo

The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo and/or Europa Analytics, unless reported otherwise.

7. Annex: Other documentation attached

[List in Annex if you wish to provide any additional information.]

Antonio,

Thank you for taking the time to speak at the 2022 marine robotics summer school in July, and for your lecture on ‘EMODnet: methods and tools in the global glider data exchange’. Your lecture and energy were instrumental in exposing the students to new ideas in the ocean domain and inspiring them to explore.

Thanks again for joining the summer school and hope to see you at a future edition.

Best wishes,

MIT Portugal Program

LSTS-FEUP

OKEANOS – University of Azores



Figure 2. Marine Robotics Summer School